

CLAIMS

What is claimed to be new and desired to be protected by Letters Patent is set forth in the appended claims.

I claim:

1. A system for providing a moving step for stairs, comprising:

a) a stairway for providing a plurality of stairs from a lower level to an upper level, said stairs having a first step having a top surface wherein said top surface of said first step is disposed contiguous with and at the same elevation of said lower level, said stairs having a top step having a top surface wherein said top surface of said top step is disposed contiguous with and at the same elevation of said upper level, said first step being disposed at the front of said stairway, and, a handrail disposed on a first and second side of said stairway;

b) a movable step having a top surface and a first and second end, said movable step being disposed in a first position on said front of said first step so that said top surface of said movable step is at the same elevation as said top surface of said first step, wherein said movable step is movable to a second position so that said top surface of said movable step is at the same elevation as said top surface of said top step;

c) means for moving said movable step whereby the movable step is

moved from said first position to said second position; and,

d) means for controlling said movable step whereby the operation of the movable step as it moves back and forth between the first position and the second position is controlled by a user.

2. The system of Claim 1, wherein said means for moving said movable step, comprises:

a) a stringer being disposed on said first and second side of said stairway, a track being disposed in said stringer, said stringer being elongated and extending from said lower level to said upper level; and,

b) a plurality of casters disposed on said first and second ends of said movable steps, wherein said casters travel in said tracks so as to allow said movable step to move from said first position to said second position.

3. The system of Claim 2, wherein said means for moving said movable step further comprises:

a) an electric motor being adapted to rotate a cable spool;
b) a cable having a first end connected to said cable spool and a second end connected to said movable step; and,
c) at least one pulley being disposed adjacent to said first end of said

top step, wherein said cable travels on said pulley so that said movable step moves from said first to said second position in response to said cable spool being rotated by said motor.

4. The system of Claim 3, further comprising a chain and sprocket drive mechanism for connecting said motor to said cable spool to permit the cable spool to turn in response to the motor.

5. The system of Claim 4, wherein said cable spool, said cable and said pulley are disposed on said first and second side of said stairway for connection to said first and second end of said movable step so as to move said movable step from said first position to said second position.

6. The system of Claim 5, wherein said means for controlling said movable step comprises an ascension switch for controlling the ascent of said movable step.

7. The system of Claim 6, wherein said means for controlling said movable step comprises a descension switch for controlling the descent of said movable step.

8. The system of Claim 7, wherein said means for controlling said movable step comprises a pressure sensing switch being disposed on said top surface of said movable step so that said movable step moves only while a user is standing on said movable step.

9. The system of Claim 8, wherein said means for controlling said movable step comprises a resistance sensor being disposed on said first and second handrail so that said movable step moves only while a user is grasping said first and second handrail.

10. The system of Claim 9, wherein said means for controlling said movable step comprises a step call-up switch so that said movable step can be called-up to said upper level when no user is standing on said movable step or grasping said first and second handrail.

11. The system of Claim 10, wherein said means for controlling said movable step comprises an auto return switch so that said movable step automatically returns to said first position after moving to said second position.

12. The system of Claim 11, wherein said means for controlling said movable step comprises upper and lower stop switches so that said movable step stops after reaching either of said first or second positions.

13. The system of Claim 12, wherein said means for controlling said movable step comprises a microcontroller for controlling said ascension switch, said descension switch, said pressure sensing switch, said resistance sensor, said call-up switch, said auto return switch, and said upper and lower stop switches to permit the movable step to be controlled by a user.